What is claimed is:

1. A capacitor comprising:

a case;

a lid;

a capacitive element positioned in the case; and

a conductor electrically coupled to at least a portion of the capacitive element, with at least a portion of the conductor positioned between the case and the lid.

2. The capacitor of claim 1 wherein the conductor is coupled to a cathode of the capacitive element.

3. The capacitor of claim 1 wherein the conductor comprises an integral extension of a conductive layer of the capacitive element.

4. The capacitor of claim 1 wherein the case has an upper rim and the conductor is positioned between the upper rim of the case and the lid.

5. The capacitor of claim 1 wherein the conductor is electrically and mechanically attached to the case.

6. The capacitor of claim 1 further comprising a terminal wire electrically connected to the case by attaching an end of the terminal wire to the case in end-on fashion.

7. The capacitor of claim 1 wherein the case is aluminum.

8. The capacitor of claim 1 wherein the conductor comprises a strip of aluminum tab stock.

9. The capacitor of claim 1 wherein the case and the lid form an interface, the conductor positioned in the interface.

10. The capacitor of claim 9 wherein the conductor extends from the capacitive element to the interface.

11. A capacitor comprising:

a container having a case and a cover, the case and cover forming an interface;

a capacitive element positioned in the container;

a conductor electrically coupled to at least a portion of the capacitive element, with at least a portion of the conductor positioned between the case and the cover in the interface; and

wherein the conductor is electrically and mechanically attached to the case and the case and the cover are attached to each other.

12. The capacitor of claim 11 wherein the case, the cover, and the conductor are welded to each other.

13. The capacitor of claim 11 wherein the case, the cover, and the conductor are welded to each other during an uninterrupted welding process.

14. The capacitor of claim 11 further comprising a capacitive stack including the capacitive element positioned in the case.

15. The capacitor of claim 11 further comprising a terminal wire connected to the case in an end-on fashion.

16. A method of assembling a capacitor comprising:

providing a conductor connected to a capacitor stack; and

positioning the conductor between a first portion and a second portion of a capacitor case;

forming a mechanical and electrical connection between the conductor and the case.

17. The method of claim 16 further comprising trimming off a portion of the conductor extending outside of the case.

18. The method of claim 16 wherein forming a mechanical and electrical connection further comprises welding the conductor, the first portion, and the second portion to each other.

19. The method of claim 18 wherein welding the conductor, the first portion, and the second portion comprises using an uninterrupted welding process.

20. A capacitor comprising:

a stack of flat capacitive elements with each element including a flat anode layer and a flat cathode layer with a separator interposed therebetween; and

a round wire connector attached to each anode layer and each cathode layer, wherein the wire connectors electrically connect the anode layers in common and the cathode layers in common.

21. The capacitor of claim 20 wherein the anode layer wire connectors exit the layers at one location and the cathode layer wire connectors exit the layers at another location.

22. The capacitor of claim 21 wherein the anode layer and cathode layer wire connectors are each gathered into separate bundles.

23. The capacitor of claim 22 wherein the cathode layer and the anode layer bundles are connected to a first and a second capacitor terminals, respectively.

24. The capacitor of claim 23, wherein one of the first or the second capacitor terminals comprises a terminal wire which is electrically connected to the case by attaching an end of the terminal wire to the case in an end-on fashion.

25. The capacitor of claim 20 wherein the wire connectors are insulated.

26. A method for constructing a capacitor comprising:

stacking a plurality of flat capacitive elements with each element including a flat anode layer and a flat cathode layer with a separator interposed therebetween; and,

interconnecting the anode layers and interconnecting the cathode layers with a plurality of round wire connectors.

27. The method of claim 26 further comprising arranging the wire connectors such that the anode layer wire connectors exit the layers at one location and the cathode layer wire connectors exit the layers at another location.

28. The method of claim 27 further comprising gathering the anode layer and cathode layer wire connectors into separate bundles.

29. The method of claim 28 further comprising twisting the bundles into cables.

30. The method of claim 28 further comprising connecting the cathode layer and anode layer bundles to negative and positive capacitor terminals, respectively.

31. A capacitor comprising:

a case;

a capacitor stack; and

a terminal wire;

wherein, the capacitor stack is electrically and mechanically coupled to the case and wherein a terminal wire is attached to the case by attaching an end surface of the terminal wire to the case.

32. The capacitor of claim 31 wherein the terminal wire has an expanded end for attaching to the case.

33. The capacitor of claim 31 wherein the end of the wire is welded to the capacitor case.

34. The capacitor of claim 31 wherein the end of the wire is attached by brazing to a piece of intermediate material welded to the capacitor case.

35. The capacitor of claim 32 wherein the expanded end of the terminal wire is in the shape of a nailhead.

36. The capacitor of claim 31 wherein the terminal wire is connected to a cathodic case.

37. The capacitor of claim 31 wherein the terminal wire is connected to an anodic case.

38. A method for electrically connecting a terminal wire to a capacitor case comprising:

positioning an end surface of the terminal wire flushly against a surface of the case; and

attaching only the end surface of the wire to the case.

39. The method of claim 38 wherein the end of the wire attached to the case is expanded.

40. The method of claim 38 further comprising welding the end of the terminal wire to the capacitor case.

41. The method of claim 38 further comprising brazing the end of the terminal wire to a piece of intermediate material welded to the capacitor case.

42. An implantable medical device comprising:

one or more leads for sensing electrical signals of a patient or for applying electrical energy to the patient;

a monitoring circuit for monitoring heart activity of the patient through one or more of the leads; and

a therapy circuit for delivering electrical energy through one or more of the leads to a heart of the patient, wherein the therapy circuit includes one or more capacitors; and

wherein each capacitor comprises a container having a case and a lid, a capacitor stack positioned in the case, and a conductor electrically coupled to at least a portion of the capacitor stack and positioned between the case and the lid.

43. The implantable medical device of claim 42 wherein the first conductor is electrically and mechanically attached to the case.

44. The implantable medical device of claim 43, wherein the case, the cover, and the conductor are welded to each other using a continuous welding process.

45. An implantable medical device comprising:

one or more leads for sensing electrical signals of a patient or for applying electrical energy to the patient;

a monitoring circuit for monitoring heart activity of the patient through one or more of the leads; and

a therapy circuit for delivering electrical energy through one or more of the leads to a heart of the patient, wherein the therapy circuit includes one or more capacitors, each capacitor comprising a stack of capacitive elements with each element including an anode layer, a cathode layer, a separator interposed therebetween, and a round wire connector attached to each layer, wherein the wire connectors electrically connect the anode layers in common and the cathode layers in common.

46. The capacitor of claim 45 wherein the anode layer wire connectors exit the layers at one location and the cathode layer wire connectors exit the layers at another location.

47. The capacitor of claim 46 wherein the anode layer and cathode layer wire connectors are each gathered into separate bundles.

48. The capacitor of claim 47 wherein cathode layer and anode layer bundles are connected to a negative and a positive capacitor terminals, respectively.